

PP-100

Photosynthetic Microbes Based Nutrient Oxide Nanoparticles Enhance Plant Growth

Manish Kumar

Amity Institute of Biotechnology, Amity University Madhya Pradesh, Gwalior

Plants require macronutrients and micronutrients for their proper growth. The deficiency of either type of nutrients inhibits and results in retarded plant growth. The emergence of nanotechnology allows us to rethink about plant growth promotion by providing nutrients in the nano sized forms. In this effort several nanoparticles are synthesized and characterized from various plants and microbes. Photosynthetic prokaryotic microbes *viz.* cyanobacteria can also be utilized for the synthesis of oxide nanoparticles of macro and micronutrients. Since several cyanobacterial strains are used as natural biofertilizers, their application in the synthesis of nutrient oxide nanoparticles will be more favorable. The application of these oxide nanoparticles facilitates the growth of plants to a larger extent. This was observed that the application of photosynthetic microbes based oxide nanoparticles not only enhance the root but also shoot length. This observation was taken both in lab condition and field conditions. There are very few reports in this aspect and intensive research and its application at agriculture field level is required a lot.

Keywords: Photosynthetic microbes, oxide nanoparticles, plant growth promotion